

## PROJECT SUMMARY

**County:** El Dorado, Amador

**Applicant:** California Association of Resources Conservation Districts

**Project Title:** Implementation Plan for Grey Water Systems in the Cosumnes Watershed and the Greater Sierra Nevada Region

## PROJECT GOAL

To make the tool of grey water available and practical to the citizens of the Cosumnes Watershed by creating a grey water implementation plan for both a small community and a single family home. The plans will be detailed enough to guide the installation of grey water systems on the specific project sites. To make the tool available to the broader region a "Technical and Political Guide to Grey Water in the Sierra Nevadas" will be created in order to assist any resident in tailoring the plan to their property or small community.

## PROJECT SCOPE

The Cosumnes River is a river of statewide significance. As the last undammed river on the western slope of the Sierra Nevada Mountains and as a contributor to the bay-delta ecosystem, it is important that this river be protected and restored. This project will address the number one restoration issue of the Cosumnes River as identified by the State Water Resources Quality Control Board and the Cosumnes River Watershed Management Plan (available at [www.cosumneswatershed.org](http://www.cosumneswatershed.org)): reduced fall and summer flows. In order to increase fall and summer flows in the river, a systemic water use efficiency program will be instituted throughout the watershed based on the publicly vetted Cosumnes River Watershed Management Plan. In order to bring about the change that is necessary, a fundamental shift is needed in the way watershed citizens view, relate to, and use water. A change in knowledge base, attitude, resources, and tools holds the greatest potential to restore this watershed. This project addresses one aspect of the greater plan: making the tool of grey water accessible and practical to the residents of the watershed.

Water use efficiency in the Sierra Nevada Region represents a particular opportunity for the restoration of the river. The upper watershed collects winter rains in the mountain's rock-fissure aquifers. Rainwater overflows the aquifers and travels through subsurface flow to the river. The water reaches the river in the summer and fall providing surface flow during the critical period when salmon swim into the Cosumnes to spawn. Development in the Sierras and the resulting overdraft of the rock fissure aquifers (along with other factors) has reduced and sometimes eliminated the sub surface flows. While this river once ran all year round, it now dries up completely in drought years and in sections almost every year. The salmon population has been hard hit. It is estimated that the population once numbered 50,000. The latest estimates show less than 500 salmon with some estimates as low as 50. Without restoring flows, salmon will be eliminated from this river because they will not be able to access spawning grounds.

The Cosumnes River Watershed Management Plan identified the utilization of grey water as having significant potential to restore the natural flow of the river. In fact, installing a grey water system that harvests laundry water and rainwater along with a native plant garden can virtually eliminate the need to use groundwater for outdoor water use. Given that outdoor water use accounts for 50% of home water use, a significant savings can be realized with the potential to bring back critical flows. In addition, the grey water systems can be used as a back up for fire safety in the event of wildfire decreasing the potential for wildfire to devastate the river, its communities, habitat and inhabitants.

While the State of California has allowed grey water since 1997, very few grey water systems have been installed due to the uncertainty of the law and obstacles to permits. The industry has stalled and only a few grey water system distributors exist while sales volumes are low. With Senate Bill 1258 passing in July 2008, the future of grey water is about to change. The law calls on the State of California to amend the building code to expand the circumstances in which grey water can be used. This presents a tremendous opportunity to the Cosumnes River and the Sierra Nevada Region as a whole.

This grant will prepare the Cosumnes Watershed and the Sierra Nevada Region for the implementation of grey water by creating 3 planning documents. A plan for the installation of a grey water system will be created for a small community by selecting a community based on priorities, identifying their needs through a public process and tailoring an implementation plan to the site specific location. A similar plan will be developed for an individual homeowner. The plans are designed to guide the implementation of the grey water system on the site specific properties. Small community and individual systems were

chosen because they are the two types of systems most likely to be installed in the well-supplied portions of the watershed. In addition to the site specific plans, a “Technical and Political Guide to Grey Water in the Sierra Nevadas” will generalize the knowledge to the greater region. The plan will still be specific enough that an individual or small community could take the plan, apply it to their local setting and have everything they need to implement their own system.

The “Technical and Political Guide to Grey Water in the Sierra Nevadas” will be widely distributed, presented at a community workshop for the entire Cosumnes Watershed, and presented at professional conferences. The guide is intended to remove barriers to installation, create excitement about grey water systems, clarify political guidelines, guide the practical aspects of implementation and encourage the widespread adoption of grey water systems in the State of California.

## LETTERS OF SUPPORT

El Dorado Fire Safe Council

## SNC PROJECT DELIVERABLES AND SCHEDULE

DETAILED PROJECT DELIVERABLES	TIMELINE
Gather background information by performing a literature review of grey water, talking with local agencies, and gaining experiential knowledge from owners and distributors of grey water systems	4/2009- 6/2009
Identify and select demonstration sites: 1 small community and one individual landowner. A list of specifications will be developed from the literature review and outreach will occur to homeowner associations, individual landowners, small communities, resorts, fire safe councils and other relevant community groups.	7/2009-8/2009
Work with the demonstration sites to develop an implementation plan by identifying community needs and developing a technical solution to the problem.	9/2009-12/2009
Generalize the knowledge to write the “Technical and Political Guide to Grey water in the Sierra Nevada region”	12/2009- 2/2010
Distribute the guides and technical document widely by holding a workshop for watershed residents, distributing the report to stakeholders and interested agencies, making the report available to regional and statewide networks and presenting the paper at conferences.	3/2010-9/2010
Solicit funding to implement the two site specific grey water systems based on opportunities identified in the plan	9/2009- 9/2010

## SNC PROJECT COSTS

PROJECT BUDGET CATEGORIES	TOTAL SNC FUNDING
Staff Time	\$20,400
Supplies	\$300
Travel	\$1000
Duplication and Distribution	\$5500
Public Workshop	\$500
Administration	\$4200
<b>SNC GRANT TOTAL</b>	<b>\$31,900</b>